

CLAIMS

1. A device for storing and/or dispensing substantially planar items in the form of rigid or flexible sheets, comprising at least one supporting element driven in rotation by at least one electric motor and ribbon means wound on said supporting element and on at least one take-up member for taking up said ribbon means, the banknotes being stored sequentially between successive windings of said ribbon means that are wound and unwound between said supporting element and said at least one take-up member, said device being characterized in that said supporting element has a non-circular cross section for obtaining one or more distinct resting surfaces, on which said ribbon means are wound.
2. The device according to Claim 1, wherein said supporting element comprises one or more convex resting surfaces.
3. The device according to Claim 1, wherein said supporting element comprises one or more concave resting surfaces.
4. The device according to Claim 1, wherein said supporting element comprises one or more plane resting surfaces.
5. The device according to Claim 1, wherein said supporting element comprises at least two resting surfaces, on which said ribbon means are wound.
6. The device according to Claim 1, wherein each of said planar items is stored, either totally or in part, on each of said one or more resting surfaces.
7. The device according to Claim 1, wherein said one or more resting surfaces of said supporting element have a quadrangular shape in plan view.
8. The device according to any of the preceding claims, wherein the axis of rotation of said supporting element is substantially parallel to

at least one of the sides of said quadrangular surface.

9. The device according to Claim 1, wherein said supporting element is formed by a plate having a substantially rectangular shape in plan view and comprising at least two of said opposed resting surfaces.

10. The device according to Claim 9, wherein said supporting element is set in rotation about an axis coinciding with one of the axes of symmetry of said plate.

11. The device according to Claim 9, wherein said substantially rectangular plate has a larger side of dimension equal to or greater than the larger dimension of said planar items in plan view and a smaller side of dimension equal to or greater than the smaller dimension of said planar items in plan view.

12. The device according to Claim 1, wherein said ribbon means comprise at least one film wound in part on said supporting element and in part on at least one take-up member.

13. The device according to Claim 1, wherein said ribbon means comprise at least two distinct films wound in part on said supporting element and in part on at least two corresponding distinct take-up members, the planar items being stored sequentially between said two distinct films.

14. The device according to Claim 12 or Claim 13, wherein at least one of said films has at least one of its surfaces rough, coarse, irregular or in any case non-smooth.

15. The device according to Claim 12 or Claim 13, wherein at least one of said films is embossed.

16. The device according to Claim 12 or Claim 13, wherein at least one of said films has at least one surface, on which there is deposited, either totally or in part, a layer of material with properties of

adherence.

17. The device according to Claim 13, wherein said at least two take-up members are driven in rotation by distinct electric motors.
18. The device according to Claim 13, wherein said at least two take-up members are driven in rotation by a single motor.
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19. The device according to any of Claims 12 to 18, wherein said take-up members are constituted by cylindrical rollers.
20. The device according to any of Claims 12 to 18, wherein said take-up members are constituted by rollers with polygonal cross section.
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21. The device according to Claim 1, wherein there are provided means for controlling the traction of said ribbon means between said supporting element and said at least one take-up member.
22. The device according to Claim 21, wherein said means for controlling traction include at least one dandy-roller system.
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23. The device according to Claim 21, wherein said means for controlling traction include one or more braking systems that can be operated upon command.
24. The device according to Claim 21, wherein said means for controlling traction include one or more braking systems with pre-defined friction.
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25. The device according to Claim 21, wherein said means for controlling traction include means for driving in rotation in just one direction, mounted on the shafts of said take-up members.
26. The device according to Claim 1, wherein there are provided one or more optical sensors for detection of the angular position of said supporting element.
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27. The device according to Claim 1, wherein said device is formed by at least two distinct portions that can be separated from one

another.

28. The device according to Claim 27, wherein said device includes at least one first portion containing at least the motor for actuation in rotation of said supporting element and at least one or more motors for actuation in rotation of one or more take-up members of said ribbon means, as well as at least one second portion containing at least said supporting element and said one or more take-up members.

5 29. The device according to Claim 28, wherein there are provided gear-drive means set between said motors contained in said first 10 portion and the elements driven in rotation contained in said second portion.

15 30. A method for storing and/or dispensing substantially planar items in the form of rigid or flexible sheets, wherein said planar items are stored sequentially between successive windings of ribbon means wound and unwound between a supporting element, driven in rotation by at least one electric motor, and at least one take-up member, characterized in that said supporting element has a non-circular cross section for obtaining one or more distinct resting surfaces, on which said ribbon means are wound.

20 31. The method according to Claim 30, wherein said supporting element comprises one or more convex resting surfaces.

32. The method according to Claim 30, wherein said supporting element comprises one or more concave resting surfaces.

25 33. The method according to Claim 30, wherein said supporting element comprises one or more plane resting surfaces.

34. The method according to Claim 30, wherein said supporting element comprises at least two resting surfaces, on which said ribbon means are wound.

35. The method according to Claim 30, wherein each of said planar

items is stored, either totally or in part, on each of said one or more resting surfaces.

36. The method according to Claim 30, wherein said resting surfaces have a substantially quadrangular shape in plan view, and
5 wherein the axis of rotation of said supporting element is substantially parallel to at least one of the sides of said quadrangular plane surfaces.

37. The method according to Claim 30, wherein said supporting element is formed by a plate having a substantially rectangular shape
10 in plan view, comprising at least two of said opposed resting surfaces.

38. The method according to Claim 37, wherein said supporting element is set in rotation about an axis coinciding with one of the axes of symmetry of said plate.

39. The method according to Claim 37, wherein said substantially
15 rectangular plate has a larger side of dimension equal to or greater than that of the larger side of said planar items and a smaller side of dimension equal to or greater than that of the smaller side of said planar items.

40. The method according to Claim 30, wherein said ribbon means
20 comprise at least one film wound in part on said supporting element and in part on said at least one take-up member.

41. The method according to Claim 30, wherein said ribbon means comprise at least two distinct films wound in part on said supporting element and in part on at least two corresponding distinct take-up
25 members, the planar items being stored sequentially between said two distinct films.

42. The method according to Claim 40 or 41, wherein at least one of said films has at least one of its surfaces rough, coarse, irregular or in any case non-smooth.

43. The method according to Claim 40 or 41, wherein at least one of said films is embossed.
44. The method according to Claim 40 or 41, wherein at least one of said films has at least one surface on which there is deposited, either totally or in part, a layer of material with properties of adherence.
- 5 45. The method according to Claim 41, wherein said at least two take-up members are driven in rotation by distinct electric motors.
46. The method according to Claim 41, wherein said at least two take-up members are driven in rotation by a single motor.
- 10 47. The method according to any of Claims 40 to 46, wherein said take-up members are constituted by cylindrical rollers.
48. The method according to any of Claims 40 to 46, wherein said take-up members are constituted by rollers with polygonal cross section.
- 15 49. The method according to Claim 30, wherein there are provided means for controlling traction of said ribbon means between said supporting element and said at least one take-up member.
50. The method according to Claim 49, wherein said means for controlling traction include at least one dandy-roller system.
- 20 51. The method according to Claim 49, wherein said means for controlling traction include one or more braking systems that can be operated upon command.
52. The method according to Claim 49, wherein said means for controlling traction include one or more braking systems with pre-defined friction.
- 25 53. The method according to Claim 49, wherein said means for controlling traction include means for driving in rotation in just one direction, mounted on the shafts of said take-up members.
54. The method according to Claim 30, wherein there is provided

detection of the angular position of said supporting element by means of optical sensors.

55. The method according to Claim 30, wherein said planar items are carried in a position corresponding to said ribbon means and/or said at least one plane surface of said supporting element along a path that is substantially parallel to the direction of movement of said ribbon means.

56. The method according to Claim 30, wherein said planar items are carried in a position corresponding to said ribbon means and/or said at least one plane surface of said supporting element along a path substantially perpendicular to the direction of movement of said ribbon means.

57. A machine for storing and/or dispensing substantially planar items in the form of rigid or flexible sheets, characterized by comprising 10 one or more storing and/or dispensing devices according to any of 15 Claims 1 to 29.